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UNITED STATES DISTRICT COURT

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NORTHERN DISTRICT OF CALIFORNIA

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SAN FRANCISCO DIVISION

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IN RE FACEBOOK BIOMETRIC
INFORMATION PRIVACY LITIGATION

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THIS DOCUMENT RELATES TO:

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ALL ACTIONS

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FREDERICK WILLIAM GULLEN, on behalf
of himself and all others similarly situated,

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Plaintiff,

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v.

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FACEBOOK, INC.,

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Defendant.

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**DECLARATION OF OMRY YADAN IN
SUPPORT OF FACEBOOK, INC.'S
MOTION FOR SUMMARY JUDGMENT**

Master Docket No.: 3:15-CV-03747-JD

Date: January 25, 2018
Time: 10:00 a.m.
Location: Courtroom 11

Hon. James Donato

Case No. 3:16-cv-00937-JD

**REDACTED VERSION OF
DOCUMENT(S) SOUGHT TO BE SEALED**

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1   I, Omry Yadan, under penalty of perjury of the laws of the United States, depose and

2   state as follows:

3   1.   I have been employed by Facebook, Inc. ("Facebook") as a software engineer

4   since October 2012. Prior to joining Facebook, I was a software engineer at Face.com, a

5   facial-recognition technology company that Facebook acquired in 2012.

6   2.   I am familiar with each of the matters set forth below based on personal

7   knowledge, or from my review of records kept and made by Facebook as its regular practice. If

8   called as a witness, I could and would testify competently as to the matters set forth below.

9   3.   In 2010, Facebook licensed certain face-detection and facial-recognition software

10   from Face.com for use in connection with Facebook's Tag Suggestions feature. Informally, we

11   referred to this software as "Facer" at Face.com, and it is has become known as Facer at

12   Facebook as well.

13   4.   As an employee of Face.com, I helped Facebook integrate Facer into Facebook's

14   computer systems. Among other things, I wrote some of the computer code that Facer uses to

15   communicate with other computer servers on Facebook's network and with the computer code

16   (███) that operates Facebook's

17   website. Following the Face.com acquisition in 2012, in my role as a Facebook software

18   engineer I have continued to work on developing, implementing, and improving aspects of

19   Facebook's facial-recognition software and the Tag Suggestions feature.

20   5.   In connection with my work, I am knowledgeable about the general network

21   architecture of Facebook's computer systems, the hardware (*i.e.*, the computers and servers)

22   associated with those systems, and how those systems are used in connection with facial

23   recognition.

24   **Facebook's Data Centers**

25   6.   The computers, servers, and databases used to provide services to people with

26   Facebook accounts are located in nine "Data Centers" maintained by Facebook. Six Data

27   Centers are located within the United States, in (i) Prineville, Oregon ("PRN"), (ii) Santa Clara,

28   California ("SNC"), (iii) Altoona, Iowa ("ATN"), (iv) Fort Worth, Texas ("FTW"), (v) Ashburn,

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1   Virginia ("ASH"), and (vi) Forest City, North Carolina ("FRC"). Attached as Exhibit 1

2   (FBBIPA_00044570) is a true and correct copy of excerpts from an internal "Wiki" page

3   maintained by Facebook that shows the location of each current Data Center, and additional data

4   centers that are now under construction.

5   7.   None of Facebook's Data Centers is located in Illinois, nor has Facebook

6   maintained any Data Centers in Illinois at any point since Facebook first began using

7   facial-recognition technology in 2010. Facebook is in the process of developing additional Data

8   Centers in the United States and in other countries, but none is in Illinois.

9   8.   In addition, none of the Facebook or former Face.com employees involved in

10   developing Facebook's facial-recognition technology, or the facial-recognition technology that

11   Facebook initially licensed from Face.com, is based in Illinois, nor are any of the Facebook

12   employees who work with that technology today based in Illinois. None of the work that has

13   ever been done to design, engineer, or implement Facebook's facial-recognition technology has

14   taken place in Illinois.

15   **Facebook's Facial-Recognition Technology**

16   9.   Facebook's facial-recognition technology is used on certain photos that are

17   uploaded to Facebook. The process involves four steps: (i) "detection" (the process of

18   determining whether and where a face appears in an image), (ii) "alignment,"

19   (iii) "representation," and (iv) "classification" (the actual process of recognizing a face). ▮▮▮▮

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26   10.   In this declaration, I will not explain in great detail exactly how Facebook's

27   facial-recognition technology works. Rather, the purpose of my declaration is to explain whether

28   and the extent to which each step of the facial-recognition process occurs (i) "server-side," *i.e.*,

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1 on Facebook's network of computer servers, which are located in Facebook's Data Centers; or

2 (ii) "client-side," *i.e.*, locally on the computers and devices used by people who use Facebook.

3   11.   As further detailed below, ████████████████████████████

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14   12.   I discuss each of these steps below.

15   *Face Detection*

16   13.   As I explained above, face detection is the process of determining whether and

17 where a face appears in an image. It does not attempt to identify *whose* face is present. ████

18 ██

19 ██

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21   14.   ██

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25   15.   ██

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28   16.   ██

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6 █████████████████████████████████████

Alignment

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8 17.   ███████████████████████████████████████

9 ██

10 ███

11 ███████████████████████████████

Representation

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13 18.   ███████████████████████████████████████

14 ██

15 ██

16 ██

17 ██████

18 19.   This process always takes place server-side—████████████████████

19 ██████████████████████

20 20.   ███████████████████████████████████████

21 ██

22 ██

Classification

23

24 21.   ███████████████████████████████████████

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27 █████████████████████████████████

28 22.   ███████████████████████████████████████

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5   23.   █████████████████████████████████████

6 ██

7 ███ In short, templates

8 exist only on Facebook's servers.

9   24.   During classification, ██████████████████████████

10 ██

11 ██

12 ██

13 ██

14 ██

15 ████████████████████████████ This entire process takes place

16 server-side.

17   25.   ███████████████████████████████████

18 ██

19 █████████████████ However, tag suggestions do not contain any information that

20 could be used to create a template or a face signature, or which otherwise could be used to

21 perform facial recognition.

22 **Plaintiff Gullen's Photographs**

23   26.   I have reviewed information that is maintained by Facebook's computer systems

24 in the normal course of business associated with the Facebook photos produced at GULLEN-

25 00001 and GULLEN-00002, by cross-referencing the unique ID numbers associated with each

26 photo displayed in the Facebook URL that appears above each photo in GULLEN-00001 and

27 GULLEN-00002.

28   27.   Business and other organizations maintain Facebook "Page" accounts to interact

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with Facebook users and post photos, among other things. However, facial recognition is not performed on photos that are posted on business or other organization Facebook Pages. The photo at GULLEN-00001 was posted to the Facebook Page "Glenview Patch" on April 23, 2012. No faces were detected in the photo, no steps of the facial-recognition process were performed on the photo, no tag suggestions were made in connection with the photo, and no user-created tags exist for the photo.

28. ██
██
██
████ For the photo produced at GULLEN-00002, Facebook's records show that it was uploaded ("published") by Facebook user ████████ on May 20, 2015, from an IP address associated with the zip code ██████████████. ██████████ created two tags for the photo, one of which reads, "Frederick W. Gullen." While the photo was uploaded in May 2015, the tags were created three months later, on August 20, 2015.

29. A true and correct summary of the foregoing information obtained from Facebook's computer systems related to the photos produced at GULLEN-00001 and GULLEN-00002 is attached to this declaration as Exhibit 2 (FBBIPA_00044567). The names and Facebook user IDs associated with the people who posted GULLEN-00001 and GULLEN-00002, as well as the Facebook users who are tagged in GULLEN-00002, are referenced in Exhibit 2. Facebook considers the information contained in Exhibit 2 that identifies Facebook users and their activities on Facebook to be non-public information, and takes steps to prevent such information from becoming publicly available or available to people outside of Facebook.

Facial Recognition and Non-Users

30. Templates are created and maintained only for Facebook users. Facebook does not create, save, or store templates for non-users.

██ ██
██
██████████████████████████████████ Because Facebook does not create, save, or store

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1 templates for non-users, ██

2 ██

3 ██

4   32.   It would be impossible to disable this process for non-users whose faces happen

5 to appear in photos uploaded to Facebook without disabling the entire system. Like all facial-

6 recognition systems, Facebook's software works by analyzing all eligible images and then

7 discarding its analysis of images that do not match existing templates on its servers. ████████

8 ██

9 ████████████████████████████████

10   33.   Because Facebook cannot disable those steps of the facial-recognition process for

11 non-users generally, it cannot disable those steps for non-users who live in a particular state.

12 **The Details of Facebook's Facial-Recognition System and its Network Architecture**
13 **are Confidential and Proprietary**

14   34.   Facebook maintains as a trade secret both the (a) network architecture of its

15 computer systems described above, and (b) the way in which those systems interact with and

16 support Facebook's facial-recognition technology. Public release of this information would

17 cause Facebook harm by providing competitors—particularly those who also use facial

18 recognition—with insight into how Facebook designs its computer systems and its proprietary

19 facial-recognition technology. Further, public disclosure of information related to Facebook's

20 network architecture and how its architecture is used in connection with facial recognition could

21 put Facebook and the people who use Facebook at increased risk of cyber attack by malicious

22 actors. For these reasons, among others, Facebook takes steps to ensure that the information set

23 forth in my declaration above is not disclosed to competitors or otherwise made publicly known.

24   **Additional Facebook Business Records**

25   35.   The following are true and correct copies of documents created and maintained by

26 Facebook in the ordinary course of its business, created at or around the time of the subject

27 matter to which they pertain:

28   a.   The document produced at FBBIPA_00001456 (attached as Exhibit 3) is a copy

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of a presentation titled "Facer Infrastructure" that I created within the scope of my employment at Facebook.   Like the information contained in my declaration above, Exhibit 3 contains confidential information related to both (a) the network architecture of Facebook's computer systems, and (b) the way in which those systems interact with and support Facebook's facial-recognition technology.

b.   The document produced at FBBIPA_00027204 (Exhibit 4) is a copy of posts made by myself, Yaniv Taigman, and other Facebook employees between April 27 and April 30, 2015, in the internal Facebook Group "Face Recognition Core." Among other things, this Group post contains confidential information regarding research and development work being performed by Facebook's Applied Machine Learning ("AML") team.

c.   The document produced at FBBIPA_00027112 (Exhibit 5) is a copy of a July 10, 2013 activity report generated in connection with Task #2132409.   This Task references details about Facebook's image processing system that are considered proprietary and confidential.

d.   The document produced at FBBIPA_00001756 (Exhibit 6) is a copy of a July 13, 2015 activity report generated in connection with Task #5286906.   This Task references details about Facebook's photo tagging system that are considered proprietary and confidential. In addition, certain information—the user ID of a Facebook employee—has been redacted.

I declare under penalty of perjury of the laws of the United States that the foregoing is true and correct. Executed on December 7, 2017 in Menlo Park, California.

_____

Omry Yadan

DECLARATION OF OMRY YADAN; CASE NO. 3:15-CV-03747-JD & CASE NO. 3:16-CV-00937-JD